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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,085	02/27/2004	Tetsuya Inui	60919 (70551)	7533

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EXAMINER

SONG, MATTHEW J

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/789,085	Applicant(s) INUI ET AL.	
	Examiner Matthew J. Song	Art Unit 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/12/04; 8/11/04; 10/5/04; 12/16/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-10 in the reply filed on 9/21/2005 is acknowledged.

2. Claims 1-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/21/2005.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamazaki (US 2003/0021307 A1).

In an apparatus for crystallizing a semiconductor film, note entire reference, Yamazaki discloses an apparatus comprising a first optical system, which includes a laser oscillation device **301a**, this reads on applicant's light source; a group of lenses **302a**; mirrors **303a, 304a** and a lens **305a**, this reads on applicant's objective lens ([0090]-[0094]). Yamazaki also discloses a similar second optical system where a beam can be shaped into an arbitrary form by a group of lenses and if necessary by providing a slit and the like, this reads on applicant's aperture stop plate. ([0092])/ Yamazaki also discloses the laser beams emitted from different laser oscillation devise have respectively different phases. ([0093]). Yamazaki also discloses applicable laser oscillation devices are gas laser oscillation devices, such as excimer lasers; and solid laser oscillation devices such as YAG lasers. ([0005]).

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Yamazaki does not explicitly teach a second laser light being transmitted through the semiconductor film better than a first laser light. This limitation is viewed as intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The apparatus disclosed by Yamazaki is capable of performing the claimed intended use because the laser light sources can be controlled to emit any desired wavelength; therefore the first and second laser oscillation sources can be controlled to achieved the desired intended use.

Referring to claim 2, Yamazaki discloses using lens **302a** and **305a**, which are capable for adjusting the laser light to attain uniform irradiance.

6. Claims 1-2 and 9 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tanaka et al (US 2005/0035104 A1).

Tanaka et al discloses a first radiation means **101a**, a second radiation means **101b**, using a slit, this reads on applicant's aperture stop plate, and lenses **103a**, **103b**. ([0063]-[0070] and Fig 1). Tanaka et al discloses using a slit, a prism, or lens to divide light.

Tanaka et al does not explicitly teach a second laser light being transmitted through the semiconductor film better than a first laser light. This limitation is viewed as intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use,

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then it meets the claim. The apparatus disclosed by Tanaka et al is capable of performing the claimed intended use because the laser light sources can be controlled to emit any desired wavelength; therefore the first and second laser oscillation sources can be controlled to achieved the desired intended use.

Referring to claim 9, Tanaka et al discloses using a prism ([0071]).

7. Claims 3, 5-8 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 2003/0021307 A1) or Tanaka et al (US 2005/0035104 A1).

Yamazaki or Tanaka et al discloses all of the claimed limitations of claim 3, as discussed previously, except Yamazaki and Tanaka et al do not disclose the arrangement of the stop plate in relationship to the optical axis.

Yamazaki and Tanaka et al discloses using a slit, a plurality of lenses, and a plurality of mirrors to shape and direct a laser beam to a target substrate, note Figure 10 of Yamazaki and Fig 1 of Tanaka. Therefore, absent evidence of unexpected results, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Yamazaki or Tanaka et al to achieve the claimed arrangement because the beam can be redirected obliquely, perpendicularly or parallel by placement of mirrors.

Referring to claim 5, Yamazaki discloses a lenses **302a** and **305a**, which is capable of uniformizing the irradiance distribution. Tanaka et al discloses lenses **102b**, **103b**, which are capable of uniformizing the irradiance distribution.

Referring to claim 6, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Yamazaki or Tanaka et al to achieve the claimed arrangement

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because the beam can be redirected obliquely, perpendicularly or parallel by placement of mirrors.

Referring to claim 8 and 10, Yamazaki and Tanaka et al discloses using a lens.

8. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 2003/0021307 A1) or Tanaka et al (US 2005/0035104 A1) as applied to claims 1-3, 5-8 and 10 above, and further in view of Matsushima et al (US 2001/0050271 A1).

Yamazaki or Tanaka et al teaches all of the limitations of claim 4, as discussed previously, except the trapezoidal shape of the aperture stop plate. Yamazaki does teach different shapes can be formed, which include circular, ellipsoid or rectangular ([0092]).

In an apparatus of processing an optical component using a laser beam, note entire reference, Matsushima et al teaches a beam mask having trapezoidal shape ([0108]-[0112]).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Yamazaki or Tanaka et al by using trapezoidal stop plate because a trapezoidal shape is known in the art, as taught by Matsushima et al, and changes in shape are held to be obvious (MPEP 2144.03).

9. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki (US 2003/0021307 A1) as applied to claims 1-3, 5-8 and 10 above, and further in view of Yamazaki et al (US 2002/0117630 A1).

Yamazaki ('307) teaches all of the claim 9, as discussed previously, except the radiation direction changing means is a prism.

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In a laser illumination apparatus, note entire reference, Yamazaki et al ('630) teaches a cylindrical lens may be replaced with a multi-phase prism to decrease the number of lenses in an optical system. Yamazaki et al ('630) also teaches using prism will reduce the loss of light quality and alignment of adjustment of the optical system can be made easier.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Yamazaki ('307) with Yamazaki et al ('630) prism to reduce the loss of light quality and to made the alignment of adjustment of the optical system easier.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Song whose telephone number is 571-272-1468. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew J Song

ROBERT KUNEMUND
PRIMARY EXAMINER

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A handwritten signature in black ink, appearing to be 'MJS', written in a cursive style.

MJS

March 16, 2006

Examiner

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